

## REMARKS

Reconsideration of this application, as amended, is respectfully requested.

In this response, claims 1-4, 6-9, 11-20 have been amended. No claims have been canceled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of Equivalents.

Claims 1-14 and 17-22 stand rejected under 35 U.S.C §103(a) as being unpatentable over PCT Publication No. WO2003/055111 to Tervonen et al. ("Tervonen") in view of U.S. Patent No. 6,546,166 to Liu ("Liu").

Amended claim 1 reads as follows:

A wavelength division multiplexing passive optical network (WDM- PON) for performing bi-directional communication, the WDM-PON comprising:  
two or more remote distribution nodes in between a central office and a first optical network unit including a first remote distribution node and a second remote distribution node, each of the first remote distribution node and the second remote distribution node is located in a physically separate location, wherein the first remote distribution node has at least one band splitting filter configured to couple a first composite optical signal and a second composite optical signal to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and wherein the first remote distribution node is configured to connect to the second remote distribution node coupled to two or more optical network units, wherein each of the first remote distribution node and the second remote distribution node separates one or more wavelength channels from the first composite optical signal distributed through that remote distribution node.

(Amended claim 1)(emphasis added)

Tervonen discloses a WDMA system comprising a hub, an interleaver, two multiplexers, and a number of optical network units. More specifically, Tervonen discloses the following:

In the downstream direction, the hub 510 is connected to the interleaver 512 by a downstream uni-directional fibre 520 and in the upstream direction by an upstream uni-directional fibre 522. The downstream uni-directional fibre 520 and the upstream uni-directional fibre 522 are connected to the interleaver 512 at respective uni-directional ports 524 and 526.

(Tervonen, page 12, lines 5-9)(emphasis added)

Thus, Tervonen discloses that the interleaver is connected to a hub by two uni-directional fibers: downstream fiber 520 and upstream fiber 522. In contrast, amended claim 1 coupling a first composite optical signal and a second composite optical signal to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction. Tervonen fails to disclose a first remote distribution node having at least one band splitting filter configured to couple a first composite optical signal and a second composite optical signal to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

Liu, in contrast, discloses a multi-stage optical DWDM channel group interleaver. Liu fails to disclose a first remote distribution node having at least one band splitting filter configured to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

It is respectfully submitted that Tervonen does not teach or suggest a combination with Liu, and Liu does not teach or suggest a combination with Tervonen. It would be impermissible hindsight, based on applicants' own disclosure, to combine Tervonen and Liu.

Furthermore, even if Liu and Tervonen were combined, such a combination would still lack a first remote distribution node having at least one band splitting filter configured to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

Therefore, applicants respectfully submit that claim 1, as amended, is not obvious under 35 U.S.C. §103(a) over Tervonen in view of Liu.

Given that amended independent claims 17 and 20 contain limitations that are similar to those limitations set forth above, applicants respectfully submit that claims 17 and 20, as amended, are not obvious under 35 U.S.C. §103(a) over Tervonen in view of Liu.

Given that claims 2-14, 18-19, and 21-22 depend from amended claims 1, 17, and 20 respectively, and add additional limitations, applicants respectfully submit that claims 2-14, 18-19, and 21-22 are not obvious under 35 U.S.C. §103(a) over Tervonen in view of Liu.

Claims 15-16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Tervonen in view of Liu and further in view of U.S. Publication No. 2001/0038479 to Liu et al. ("J.Liu").

As set forth above, even if Liu and Tervonen were combined, such a combination would still lack a first remote distribution node having at least one band splitting filter configured to a

first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

J. Liu, in contrast, discloses a programmable optical add/drop multiplexer. J. Liu fails to disclose a first remote distribution node having at least one band splitting filter configured to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

It is respectfully submitted none of the cited references teaches or suggests a combination with each other. It would be impermissible hindsight, based on applicants' own disclosure, to combine J. Liu, Tervonen and Liu.

Furthermore, even if J. Liu, Liu and Tervonen were combined, such a combination would still lack a first remote distribution node having at least one band splitting filter configured to a first optical cable connected to the central office, wherein the first composite signal travels on the first optical cable in a first direction, and the second composite optical signal travels on the first optical cable in a second direction opposite the first direction, and configured to connect to a second remote distribution node coupled to two or more optical network units, as recited in amended claim 1.

Given that claims 15-16 depend from amended claim 1, and add additional limitations, applicants respectfully submit that claims 15-16 are not obvious under 35 U.S.C. §103(a) over Tervonen in view of Liu and further in view of J. Liu.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If the Examiner believes a telephone conference would expedite the prosecution of the present application, the Examiner is invited to call the undersigned at (408) 720-8300.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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